

6. *The Dolichopodidae of the South African Museum.*—By C. H. CURRAN, Ottawa, Canada.

(With Plates IX and X.)

THE preparation of the manuscript describing the two-winged flies of the family *Dolichopodidae*, contained in the collection of the South African Museum, was entrusted to the author by the late Dr. Péringuey. It has been a great pleasure to examine this second collection of beautiful small flies from South Africa, to redescribe several of the species and to add several new ones to the list, and my appreciation of the late Director's kindness is very great. Including the species herein described as new, there are now about two score recognised from South Africa. Undoubtedly there are still many times this number to be found.

The *Dolichopodidae* are interesting because of their beautiful coloration, unexpected development of various appendages, and also because of the slight knowledge we have of their life-history. They are often found in large numbers about the edges of pools and streams, performing their interesting mating evolutions, wherein the males display their often remarkable sexual developments before the females. Most of the species will be found crawling about upon the mud, or even upon the surface of the water, but a few are found almost entirely upon foliage at not too great a distance from moisture. A few inhabit the seashore, while others are found upon moist sand, and one or two genera upon the trunks of trees. Most of them are found almost entirely in bright sunny patches while a few prefer the shade. Small moist clearings in woods are favourite haunts of many of them. Usually several species, and various genera, may be found together.

The classification of the family is generally rather simple where males are concerned, but the females cause much more difficulty. The specialisation of the male secondary sexual characters has been greatly used in separating the genera, as well as the primary separation upon the large or small genitalia. As the females invariably lack ornamentation they have been sadly neglected, and the only way to become familiar with the species is to collect and study both sexes together. This necessitates the collection of large numbers of specimens of each species. As it is very often impossible to distin-

guish two species in the field, such a practice frequently results in a pleasant surprise when the material is examined, as one may find that two or more species have been taken where only one was suspected.

In the following descriptions I have used the terminology of the legs, wherein I consider that all the legs are spread out at right angles to the body. Thus, the anterior surface of a leg is always the same, the posterior also the same. In this way confusion resulting from calling the anterior surface of the front leg the inner surface while the posterior surface of the hind leg is also termed the inner surface is avoided. For convenience I have also termed the whole back of the head the occiput, as I see no reason for restricting the term to the region lying between the vertex and the neck. The other terms used are those generally employed by students of the family, and generally accepted by dipterologists. In general I have followed the descriptions of Loew more or less as to style, and the terminology is very much the same; I know of no one who has prepared finer descriptions and see no reason to change the general terminology he used, except in one or two cases where the meaning was not clear.

It is hoped that the following treatment may prove simple enough to enable those unfamiliar with the group to determine their specimens correctly, and that it may thus prove an incentive to a more intensive study of the family to some one on the ground who has the time to collect exhaustively. There are still a few species described by Loew, which I have not seen, and these are naturally not included in the keys. In addition, several species described in a recently published paper on "The *Dolichopodidae* of South Africa," in the *Annals of the Transvaal Museum* (vol. x, pt. 4, 1924), are not included in the present work. As these belong to genera in which only one species is known from South Africa and they are not represented in the collection, the descriptions or keys to the species do not appear. Owing to the fact that the collections have been so small, it does not appear desirable to monograph the family until a great deal more is known about them, as such a monograph would prove very inadequate within a few years.

The types of all the species described in this paper are deposited in the South African Museum unless otherwise stated, but in every case paratypes, at least, will be found there. Where the descriptions are made from two or more specimens of a sex, paratypes are retained in the collection of the author.

SYNOPSIS OF THE SOUTH AFRICAN GENERA.

In many cases it is very difficult to place the females of the *Dolichopodidae* in their proper genera, and because of this fact almost all keys are based entirely upon the males, which offer very fine characters. There are, however, characters available for the separation of the females in most cases, and where they do not occur it would be well to consider such inseparable groups as a single genus. Except in the case of *Diaphorus* and *Chrysotus* there need be no question about the identity of females. I hesitate to unite the genera without further study, as it is possible that some character is available and may be discovered by close examination of a large number of species, which will make the retention of the two generic names possible.

There may be some difficulty in using the following key unless one is careful to make absolutely certain that a character is present or absent. Some of the characters I have been forced to use in order to bring the sexes out together are not very conspicuous. A magnification of at least twenty times should be used; this enlargement is sufficient for ordinary identification. Unfortunately, many specimens are always sure to be in poor condition, and in such cases a character is very liable to be overlooked. Attention is also called to the possibility of genera not heretofore reported from South Africa being collected, in which case the synopsis will prove unsatisfactory; on the other hand aberrant forms of a genus may not trace out.

1. Fourth vein with a widely divergent fork beyond the posterior cross-vein, the angle usually emitting a stump of vein towards the posterior wing margin or the last section of the fourth vein forms a cross-vein; thorax rather squarish (cf. *Vaalimyia* n. gen. See figs. 1 to 5) 2
- Fourth vein without a widely divergent fork, though often with a strong curvature forward; thorax not squarish in any known South African genus, but rectangular; (in *Vaalimyia*, fig. 6) there are three sections of the fourth vein beyond the posterior cross-vein, one rectangular 6
2. Second and third longitudinal veins almost touching each other along their whole length, and clearly united for a distance before joining the costa; genitalia extended behind the abdomen which is rather strongly arcuate when viewed from the side *Sciopolina* Curran
- Second and third veins distinctly separated for their whole length; genitalia hidden, drooping, or extended forward under the abdomen 3
3. Arista apical *Chrysosoma* Guer.
- Arista dorsal (often appearing almost apical) 4
4. Scutellum with four large bristles *Condylostylus* Bigot
- Scutellum with two bristles 5

5. Front hollowed out, saddle-shaped, the ocellar triangle slightly raised (*Sciopus*, not original spelling) *Sciopus* Zeller
 Front scarcely concave, only slightly lowered below the upper level of the eyes. (Probably not South African.) *Leptorhetum* Aldrich
6. Anterior femora with spines beneath *Hydrophorus* Fallen
 Anterior femora not with spines, often with long bristles 7
7. Mesopleura produced as a thumb-like strip along the posterior edge of the anterior coxae *Liancalus* Loew
 Mesopleura normal, not produced as described 8
8. A distinctly concave area before the scutellum usually covering nearly the posterior third of the mesonotum 9
 Mesonotum convex behind, at most a more or less evident transverse depression before the scutellum 11
9. Arista inserted on a deep notch in the end of the third antennal joint; face wide, concave above, the lower portion projecting rather roof-like above the palpi *Aphrosylus* Walker
 Arista dorsal or subapical; face often more or less concave above, due to contraction 10
10. Male genitalia pendulous, extending forward to near the base of the abdomen; abdomen of female rather flattened; always dark coloured, not bright metallic flies *Medetera* Fischer
 Male genitalia not pendulous, short, not reaching forward; abdomen elongate, more or less cylindrical or laterally compressed; metallic or yellowish species *Neurigona* Rondani
11. First antennal joint with hairs above 12
 First antennal joint bare above 15
12. The fourth longitudinal vein is broken at a right angle beyond the posterior cross-vein (fig. 6) *Vaalimyia* gen. nov.
 The fourth longitudinal vein is not broken at a right angle, but may be strongly curved 13
13. Face narrowest at upper third or fourth, quite strongly widened below, and reaching nearly or quite to the lower edge of the eyes *Tachytrechus* Walker
 Face with parallel sides or narrowest below, usually quite evidently shorter and seldom reaching to the lowest level of the eyes 14
14. Arista short plumose; face reaching as a triangle almost to the lowest level of the eyes *Pelastoneurus* Loew
 Arista at most short pubescent, not plumose; face of female not nearly reaching the lowest level of the eyes *Hercostomus* Loew
15. The costa extends only to or slightly beyond the tip of the third vein
Asyndetus Loew
 The costa reaches to the fourth vein or a little beyond 16
16. Anterior tarsi without claws, the pulvilli much enlarged *Diaphorus* Mg. s.s.
 Anterior tarsi with claws 17
17. Apex of the abdomen with four stout bristles; pulvilli usually enlarged on front legs. (Sub-gen. *Lyroneurus* Loew) *Diaphorus* Mg.
 Apex of abdomen not with unusually strong bristles 18

18. Arista inserted in a deep emargination of the third antennal joint slightly above the middle of the apex; abdomen flattened; rather greyish species
Aphrosylus Walker
 Arista not inserted in a deep emargination near apex of the third antennal joint; abdomen variable 19
19. The last section of the fourth vein approaches the third very strongly beyond its middle and then runs parallel with it to end in the costa close to it
Tenuopus Curran
 The last section of the fourth vein is never more than moderately bent forward 20
20. Face narrowest at upper third, widened below 21
 Face with parallel sides or narrowest below (allowance must be made for contraction in some cases) 22
21. Species over 5 mm.; filaments of genitalia reach base of abdomen
Thinophilus Wahl.
 Species under 3 mm., the genitalia are hidden or very small 23
22. Arista dorsal 24
 Arista apical or nearly so 25
23. Arista distinctly dorsal; abdomen of male with six segments
Sympycnus Loew
 Arista subapical; abdomen of male with five segments *Chrysotus* Meigen
24. Second two abdominal segments yellow with the narrow apices green, or with an additional narrow median vitta *Diaphorus* Meigen
 These two segments differently marked, never so extensively yellow; abdomen more or less cylindrical and more elongate *Sympycnus* Loew
25. The females of *Chrysotus* and *Diaphorus* will usually trace out here. I know of no definite separation except association with the males at time of capture.
- Note.*—It is often possible to tell whether a female belongs to a genus in which the genitalia of the male are pendulous by the presence of one to several fine hairs in the cavity above the anterior edge of the hind coxae, but this character is not always reliable. There are a few other genera which also possess these hairs, and some of those with pendulous genitalia lack them. Some species may be placed in their genera by the presence of only one bristle on the outer surface of the hind coxae. It must be remembered that these characters are not stable within a genus, but they may be of assistance where males and females taken at the same time are difficult to associate.

Chrysosoma Guer.

Of the four described species recorded from South Africa three are represented in the collection.

Synopsis of Species.

1. Cilia of the squamae white *flexum* Loew
 Cilia of the squama black or brown, one or two hairs may be white 2
2. Front tibiae black or brown 3
 Front tibiae yellow, the middle ones similar in colour *munroi* Curran
3. Knobs of halteres yellow *ernestum* Curran
 Knobs of halteres black *auratum* Curran

Chrysosoma auratum Curran.

Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 217, pl. vi, fig. 2, 1924.

Length, 4.5 mm. *Male*.—Face wide above; only half as wide at the lower edge as at the antennae, retreating; shining green, the sides bronzed. Front brilliant green, the small lateral upper triangles bronzed. Antennae black, the third joint brown pubescent, short, subconical; arista slender, equal in length to the thorax. Palpi small, black, with fine white hairs and two black apical bristles; proboscis red. Occiput black, greyish pollinose, the beard white. The lower section of the face bears some fine white pubescence.

Mesonotum and upper portion of the pleura in front metallic green, merging to blue behind, the pleura blackish, with a green reflection and thinly greyish-white pollinose. There is a slight indication of a bronze vitta on the anterior fourth of the mesonotum inside the humeri and a little white pollen on either side of the middle line on the anterior slopes. Acrosticals on anterior half only, rather strong.

Legs black, the femora with a greenish tinge, the tarsi brownish black. Femora below with a row of sparse white cilia on both the anterior and posterior surface, those on the hind femora longest; anterior and posterior femora with a row of ciliate hairs on the postero-dorsal surface, the hind ones also with a row of shorter black hairs on the antero-dorsal surface. Tibiae simple, with normal bristles. First joint of the anterior tarsi about three-fourths as long as the second, its apical third and the following joint with the tarsal pad composed of brownish hairs which are at least half as long as the width of the joints, otherwise simple.

Wings cinereous hyaline, venation normal. Squamae brown, with black fringe; halteres brown.

Abdomen blue, the last two segments green, all the incisures blackish, the inner portion of the first segment purplish, the sides of each segment more or less bronzed. Hair on the sides of the abdomen long, black; also partly black on the disc, but there is shorter and finer hair on this part which is very evidently golden yellow in some views. Genitalia small, black, with short, semi-lunulate black outer lamellae which bear black hairs.

Female.—Pollen of face a little more reddish brown; front very wide. The knobs of the halteres are reddish. Tibiae wholly brown. Length, 3 mm.

One male and female have the proboscis brown and this male is smaller, only 3.5 mm. The brown tibiae distinguishes the female

from *munroi*, while the brownish pollinose face distinguishes both sexes from *pernigrum* Beck.

There is a male specimen in the collection collected by Mr. R. W. E. Tucker at Kaapmuiden, Transvaal, 30th October 1918, agreeing perfectly with the type, and ♂♀, Nyaka, Port. E. Africa, February 1924, collected by Mr. R. F. Lawrence.

Chrysosoma munroi Curran.

Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 218, pl. vi, fig. 3, 1924.

Length, 3.5 to 4 mm. *Male*.—Face bright green, more bluish in the middle above, rather thinly covered with snow-white pollen to just above the antennae; lower portion of the face distinctly separated, subcordate. Front bright green, the small upper lateral angles brassy, the black hairs restricted to these small angles. Antennae small, black; third joint cordate; arista as long as the thorax, slightly thickened basally. Occiput opaque, black on upper part, white pollinose below. Palpi black, with fine white hairs, in front with two prominent black bristles; proboscis brownish.

Mesonotum brassy green; pleura green, with a covering of thin white pollen, only blackish in ground colour about the wing root. On the disc of the mesonotum is a pair of moderately wide bronze-brassy vittae, situated on the anterior half and separated from each other by the middle line. Acrosticals fairly large.

Legs black, the anterior four tibiae dirty yellowish. First joint of the anterior tarsi nearly three times as long as the second; legs otherwise simple.

Wings cinereous hyaline; venation normal. Squamae and halteres brown, the former black ciliate.

Abdomen bright green, the basal half of the segments somewhat bronzed, the incisures blackish. Pile and hairs black. Genitalia small, the outer lamellae extremely long, slender, blackish, their hairs blackish; inner lamellae long, almost straight.

Female.—The face is slightly wider below, its sides more evenly converging, the lower part broader and less distinctly cut off; knobs of halteres yellow; otherwise agreeing in all respects.

This species is represented by eight specimens from the following localities: 2♂ 3♀, M'fongosi, Zululand (W. E. Jones); ♀, Tsumeb, S. W. Africa, December 1919 (R. W. Tucker); ♂♀, Masiene, Port. E. Africa, December 1923 (R. F. Lawrence).

Chrysosoma flexum Loew.

A beautiful large species, readily recognised by the characters shown in figs. 10, 10a, and 10b.

Length, 7.5 mm. *Male*.—Head green, not polished; lower portion of face and lower third or less of upper portion, except large sublateral projections downwards, densely greyish yellow pollinose; antennal region with brownish pollen except a yellow triangular spot immediately above and between the antennae. Face and front wide. Beard whitish. Proboscis reddish, with blackish base. Palpi reddish, with some fine whitish hairs and three long black bristles. Antennae black; first two joints metallic green above; third joint with a reddish triangle on basal half below, the joint triangular longer than wide; arista about as long as the head and thorax together.

Mesonotum green, not polished, more or less bluish violaceous in the middle and on the scutellum, which is evenly gently convex and bears two long black bristles. Pleura and coxae grey pollinose, the former chiefly green.

Coxae black, with white hair and black bristles; front coxa with two bristles. Legs reddish; trochanters and basal sixth of femora black. Anterior and posterior tarsi black, the middle ones with the apices of the first to third joints and the remaining joints black, the first joint with a broad basal and preapical whitish band, brownish yellow between, the bases of the two following joints yellow (fig. 10b). Anterior femora with appressed black hairs above, elsewhere with long white hairs which are longer than the width of the femur and decrease in length to the apical fourth where they disappear; middle and hind femora with a row of long, fine cilia below, which decrease as on the front legs, mostly black, but several of the basal ones pale. Anterior tibiae with three short bristles; middle ones with three dorsal bristles—one at the basal fourth, shorter than the thickness of the tibia, one at the basal third, one-and-one-half as long as thickness of the tibia, and one at the apical third about four times as long as tibial thickness, and a stouter much shorter bristle behind it on the postero-ventral surface. The middle basitarsi bear three long slender bristles as shown in the figure, and their pile is black except on the upper side of the fifth tarsal segment where it is white. Legs otherwise with normal black hair.

Wings as in fig. 10, their markings deep brown. Squamae yellow, with black border and yellowish cilia. Halteres rather dull ferruginous.

Abdomen bright green, the incisures narrowly black, the sides broadly bronzed, becoming black below, these colours covering all the apical segment. Genitalia (fig. 10a) black, with black hairs except behind the slender arms of the outer lamellae, where the pile is yellowish.

Described from a single ♂, Nyaka, Port. E. Africa, February 1924, collected by Mr. R. F. Lawrence.

C. senegalense has six or seven bristles on the middle tarsi, lacks the white bands and has noticeably different genitalia.

Sciapus Zeller.

Of this genus there are three species in the collection, one from Uganda undescribed. The forms occurring in South Africa, including the East African species, in the collection may be separated as follows:—

1. Thorax and abdomen reddish yellow, the latter with narrow, dark segmental apices *peringueyi* n. sp.
 Thorax and abdomen metallic, green or bluish 2
2. Femora black; wings chiefly blackish (Uganda) . . . *subfascipennis* n. sp.
 Femora yellow; wings without black markings 3
3. Posterior femora with a row of long black bristles below . . . *flavirostris* Loew
 Posterior femora not black ciliate below *trochanteralis* Curran

Sciapus peringueyi n. sp.

(Figs. 1, 1a, 1b.)

A rather large yellowish species, the apices of the abdominal segments narrowly black; genital lamellae very long and filamentous.

Length, 7 to 7.5 mm. *Male*.—Head metallic green in ground colour, covered everywhere with dense greyish and greyish-yellow pollen, the face more argenteous, but the front has two longitudinal metallic violaceous-blue, sub-triangular, bare spots which may be confluent on the middle line. Face moderately wide, narrowed to the lower edge. Occipital cilia not numerous, brownish or black, short, limited to the upper edge of the head, the hair on the back of the head yellowish. Palpi rather large, twice as long as wide, elongate oval, with rather abundant long hair, especially on the apex and inner margin. Antennae reddish orange, the third joint darker except basally, subtriangular in shape, about as long as wide; arista brown, slender, about as long as the face (fig. 1b).

Thorax yellowish, the mesonotum rusty yellowish, with a metallic

violaceous reflection, sometimes with a more violet, incomplete, obscure median vitta; the pleura with a small, sub-triangular black spot beneath the root of the wings. Scutellum mostly violaceous, with a more greenish apex, but the lower margin and under side are yellowish. Pleura pale pollinose.

Legs yellowish, the apical tarsal joints becoming fuscous; simple, without unusual hairs or bristles. Coxae all pale, with yellowish hair and bristles. Hair of the legs black.

Wings tinged with yellowish, the venation as in fig. 1. Squamae and halteres yellowish, the former with a narrow brown margin and yellowish cilia.

Abdomen rusty yellowish, elongate, slightly tapering, the apex of each segment except the first bronze-black, the last segment almost wholly bronzed except the sides. Venter wholly pale. Genitalia yellow, shaped as in fig. 1a, the long outer lamellae brownish except on the basal fifth, the inner lamellae wholly pale. Hairs of the abdomen black, yellow on the sides and venter.

Female.—Differs chiefly sexually. The second, third, and fourth abdominal segments have narrower dark apices, the remainder of the abdomen pale. Fifth segment as long as the two preceding together, subconical in shape; the genitalia bear four short, stout, obtuse spines, the dorsal pair longer than the outer ones.

Type male, Cape Town, 1913; type female, same locality, both collected by Dr. Péringuey. Two male paratypes from Cape Town were collected in January 1912, by Mr. Lightfoot.

This species is evidently related to *S. unicolor* Becker from East Africa, but it is smaller, the thorax is shining and the front is not "metallic black." *S. adumbratus* Becker, from Egypt, is also a pale-coloured species but it has the front "grey pollinose." Probably the genitalia are quite different.

Sciapus subfascipennis n. sp.

(Fig. 2, Wing.)

Wings blackish, with the hind margin and a fascia beyond the middle almost hyaline.

Length, 5.5 mm. *Female*.—Face wide, gradually widened above, rather bright green with purplish reflections on the middle portion, brownish-ochreous pollinose, but thinly so on the upper section, especially in the middle. Front metallic, almost black below, becoming green above, not pollinose. Occiput green, thinly greyish pollinose

and white pilose, except above. Palpi black, brownish pollinose, black haired; proboscis brownish red. Antennae brownish red, the first joint blackish; second joint with a long bristle above and two or three short ones below. Arista slender, black, longer than head width.

Mesonotum blue-green, evenly thinly greyish pollinose, the sides almost black; scutellum blue, convex, with two black bristles. Pleura green, grey pollinose.

Coxae greenish, grey pollinose, the front ones yellowish pilose, with several black bristles, the others bearing only black hair. Femora shining black; the anterior ones with a row of yellowish cilia on the postero-ventral surface, the middle ones with shorter, black cilia on the same surface but a few of the basal hairs are pale. Hair of the legs elsewhere black. Anterior four tibiae, basal four-fifths of the middle basitarsus, and first two joints of the front tarsi, yellowish; the hind tibiae, their tarsi wholly, and the joints of the front tarsi not described as yellowish, black. Posterior tibiae with six or seven long black bristles above and about the same number of short, weak ones below. First joint of anterior tarsi twice as long as the last four joints combined, of the middle and hind tarsi one-and-one-half times as long as the remaining joints. Middle basitarsus with six or seven conspicuous short bristles below.

Wings blackish, with pale markings and venation as shown in fig. 2. Squamae black, with black cilia. Halteres fuscous reddish.

Abdomen blue, with some greenish reflections, the narrow base and apex of each segment blackish; the whole thinly greyish pollinose, the hairs and bristles black; genitalia furcate, destitute of spines.

Described from a female collected by Mr. R. Dummer at Mulange, Uganda, in November 1922.

Sciapus flavirostris Loew.

Length, ♂, 5 mm.; ♀, 4 mm. *Male*.—Face rather wide, its upper section transverse, gently convex, only slightly more prominent above, bright blue, the upper part yellowish pollinose, the lower portion more thickly white pollinose. Front green, merging into blue below, without pollen. Occiput bluish, clothed with dense greyish-yellow pollen; beard white. Antennae brown, the small third joint subcordate, its slender arista almost as long as the thorax, inserted near the upper margin. Palpi and proboscis yellow, with yellow hairs, the palpi each with two black bristles.

Mesonotum bright green, the posterior third and the scutellum

usually violaceous; pleura green, covered with dense, greyish-white pollen, a violaceous spot beneath the squamae, which, together with the halteres, are yellow, the former white ciliate.

Anterior coxae and all the legs yellow, the former with a small black basal spot on the outer side, their white hair moderately long, fairly coarse and rather abundant, and three somewhat stronger hairs are evident on the apical half towards the outer margin; posterior four coxae black and green, with greyish pollen and whitish hair. Posterior four tarsi deep brown from the apex of the first joint, the front ones gradually becoming brownish. Beneath each femur is a row of black cilia composed of moderately long slender black bristles, those on the hind femora the longest; the anterior four femora also have a fringe of whitish hairs on the antero-ventral edge but these hairs are much shorter than the cilia, the hairs elsewhere on the legs appressed, black. Front tibiae with a row of short slender black bristles on the posterior edge and an unusually long slender hair on the apical third of this surface. The first joint of all the tarsi is as long as the remaining joints combined.

Wings cinereous hyaline; posterior cross-vein oblique.

First abdominal segment violaceous, second blue, their sides and the following segments green, but the bases of the following segments are increasingly more widely black, this colour expanding as lateral triangles, which, on the penultimate segment, occupy its whole length; dorsum thinly greyish pollinose in some lights, the hairs and bristles black, the broad sides at the base, however, with whitish hairs. Genitalia blackish, somewhat bronzed, the inner lamellae brown, the outer yellow, slightly tapering to their somewhat widened end, clothed with pale hair, but the ventral and apical bristles black.

Female.—Head as in the male, the face green. Thorax wholly green, the scutellum blue; apical cross-vein less oblique. Trochanters yellow, the anterior coxae with three prominent bristles and short white hair. Tarsal lengths similar; abdomen green.

In the collection are the following:—♂, Inhambane, Port. E. Africa, January 1924; ♂ 3♀, Nyaka, Port. E. Africa, February 1924, all collected by Mr. R. F. Lawrence.

Condylostylus Bigot.

Four species belonging to this genus are represented in the collection and may be separated as follows:—

- | | |
|---|---------------------------|
| 1. Anterior coxae greenish or blackish | <i>angustipennis</i> Loew |
| Anterior coxae practically wholly yellowish | 2 |

- | | |
|--|-----------------------------|
| 2. Cilia of the squamae pale | 3 |
| Cilia of the squamae black | <i>sicatrix</i> n. sp. |
| 3. Posterior femora black or brown on at least the apical fifth | 4 |
| Posterior femora with only a narrow apical blackish spot (<i>imitator</i> Curr., non Becker) (♀ only) | <i>imitans</i> n. name |
| 4. Female (Uganda) | <i>pateraeformis</i> Becker |
| Males | 5 |
| 5. Posterior cross-vein situated proximad of the apex of the second longitudinal vein (Uganda) | <i>pateraeformis</i> Becker |
| Posterior cross-vein well beyond apex of second vein: (<i>imitator</i> Curr., non Becker) | <i>imitans</i> n. name |

Condylostylus sicatrix n. sp.

(Figs. 3, 3a.)

Readily distinguished from all described species by the peculiar, elongate, cicatrix-like blackish area on the anterior surface of the hind tibia near the base.

Length, 4.5 mm. *Male*.—Face wide, bulbous above, strongly narrowed to lower edge, brilliant blue-green, the lower part white pollinose. Front wide, blue or blue-green. Occiput whitish-grey pollinose, fine white pilose below, bright green in ground colour. Palpi and proboscis reddish yellow, the former sometimes darker and black haired. Antennae black, the third joint subcordate, more brownish; second joint with numerous long black bristles; arista dorsal, slender, longer than the head width.

Thorax greenish blue to green, the pleura whitish pollinose. Anterior coxae reddish yellow, the others brown, with pale tips, all whitish pollinose and with white hairs, those on the front ones not abundant but long. Legs reddish yellow, the anterior four tarsi brownish from the tip of the first joint, the apical fourth of the hind tibiae and their tarsi wholly black and adorned with a cicatrix as described previously (fig. 3a). Anterior femora with a row of sparse, longish hairs below, the middle ones with a row on the basal half and some black ones on the posterior apical half, the hind ones with a row of stouter black ones on the postero-ventral surface. Legs with black hairs; tibiae not with distinctive bristling. Anterior tarsi simple; middle basitarsus as long as remaining joints, beset beneath with conspicuous short spines and with a strong, subapical ventral spine; above on the apical three-fourths there is a narrow thickly short pilose ridge and the apex is produced lappet-like over the second segment. The tarsi are otherwise normal with rather conspicuous hair.

Wings tinged with grey which fades out posteriorly. Squamae

yellow, with black fringe. Halteres pale yellow, with fuscous base.

Abdomen green, the bases of the segments broadly blackish, each segment becoming successively more bronzed, passing from brassy at the base to almost purple on the last segment which is very brilliant. Each segment bears a posterior row of long black bristles, the hairs black; first segment largely, the venter wholly, white pilose. Genitalia bronze-black, shaped as in fig. 3, the lamellae brownish or yellowish brown with black hairs.

Type, male, Matroosberg, Ceres Div., November 1917, and three males from the same locality, January 1917, all collected by Mr. Lightfoot.

Condylostylus angustipennis Loew.

(Fig. 4.)

Legs black; front four tibiae and bases of their tarsi yellowish in the female.

Length, 5 mm. *Male*.—Face wide, strongly narrowed below, bright green, the lower part thickly, the sides and middle less thickly or scarcely silvery-greyish pollinose. Front brilliant green, the occiput of the same colour but thinly greyish pollinose, the lower half white pilose. Palpi black, with long black hairs; proboscis reddish brown. Antennae black, the second joint with abundant long bristly hairs, the third truncately elongate-oval, the dorsal black arista slender and longer than the head width (fig. 4).

Thorax bright green, the mesonotum, except the sides, bluish or purplish, the scutellum similar, with four strong marginal and one or two pairs of discal bristles. Pleura greyish pollinose.

Coxae and legs blackish, the coxae, femora and part of the tibiae somewhat greenish, the former grey pollinose and whitish pilose. Middle femora with rather long black cilia on the antero- and postero-ventral surfaces, the hind ones with similar cilia on the antero-ventral edge, the front four with long black hairs behind, the front ones with some long, pale hairs on the basal half below. Tibiae with black hairs rather longer than usual, the middle ones with a long, black, preapical dorsal bristle, but not otherwise distinctively ornamented. Middle basitarsi with rather conspicuous hairs which make them appear widened, and beneath on each edge with an outwardly directed row of stout spinules, the anterior row longer, and on the apical half the upper half of the joint is greatly compressed, as though crushed.

Wings smoky brownish, paler behind and apically. Large cross-

vein oblique, its anterior end less than the length of the cross-vein towards the angle of the fourth vein. Squamae and halteres blackish, the former black ciliate.

Abdomen bronze-coloured, the base more green, the base of each segment broadly blackish. Genitalia black, but somewhat bronzed towards the base, the appendages and hairs black. The abdominal venter bears long, bristly hairs and those on the dorsum are longer than usual.

Female.—Face with the sides evenly converging below and the pollen yellowish. Front with a rather thin brownish-yellow covering of pollen; hairs of the antennae shorter, the third joint as broad as long, its apex obtusely rounded. The mesonotum is conspicuously brownish-yellow pollinose. Legs simple. Abdomen with conspicuous greyish pollen. Knobs of halteres yellow. Ovipositor with six scale-shaped bristles.

A male and female from Kar Kloof, Natal, June 1915, collected by Mr. H. W. Bell-Marley. This is the first record since the species was described.

Condylostylus imitans n. n.

C. imitator Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 221, 1924,
non Becker.

Male readily distinguished by wing venation (fig. 9). Female wings almost as in fig. 5a (*C. pateraeformis* Beck.), but the hind femora are only very narrowly black apically.

Length, ♂, 6 mm., ♀, 5 mm. *Male*.—Face quite narrow, somewhat widened on upper fourth, silvery-white pollinose to well above the antennae. Front polished blue or dark green; vertex green with whitish pollen; occiput black, grey pollinose, on upper fourth with a row of very short black bristles; beard not long, white. Face entirely without pile. Proboscis brownish; palpi black, with black hairs and perhaps more or less silvery pollinose. Antennae black; third joint rounded at apex, the arista rising at its basal third, shorter than the head height, thickened only at the base.

Mesonotum bright green, whitish pollinose in front; notopleura, pleura and coxae, silvery-grey pollinose; sides of dorsum opaque black between suture and wing-root. Scutellum evenly gently convex; with four strong bristles.

Anterior legs, including the coxae, yellow, the anterior basitarsi very much widened, more or less concave beneath, basally along the posterior margin with three short bristles among the dense woolly

hair below and in front with a row of short, downwardly directed marginal bristles along the whole length (none of these show in fig. 9*b*, which is a dorsal view) anterior tarsi brown, the basal joint brownish yellow; middle femora usually broadly brown above except on base, sometimes wholly brown or only brownish on upper apical half (teneralis); middle tibiae yellow or brownish yellow, their tarsi wholly blackish. Posterior legs wholly brownish or black except about the basal half of the femora, but sometimes wholly brown or with about two-thirds yellowish. Coxae pale haired, their bristles black, the anterior pair with three bristles on each. All the femora with a row of fine white hairs on either side below, these as long as more than half the femoral width. Hairs of legs elsewhere black and short. Middle tarsi with the apical two joints conspicuously widened, the third gradually so, all three with rather longish stout black hairs behind.

Wings as in fig. 9, the clouds brown. Squamae with brown border and pale cilia. Halteres yellow.

Abdomen green, the narrow apices and increasingly wide bases of the segments dull bronzed, apically becoming purplish bronzed, the terminal one or two segments usually wholly of this colour. Genitalia (fig. 9*a*) black. Hairs and bristles of the abdomen and genitalia black.

Female.—(Original description *C. imitator*). “Length, 5 mm. *Female*.—Front brilliant green, face narrow, silvery-white pollinose. Antennae black, the third joint with evident yellowish pubescence, cordate, the dorsal arista slender, not quite as long as the thorax. Occiput white pollinose; beard white. Palpi black, with a fringe of sparse, rather long white hairs on the lower edge; proboscis black.

“Legs, including the front coxae and all the trochanters, yellow, the tarsi, except the basal three-fourths of the anterior four basitarsi, brown or black. Middle tibiae with one sub-basal black bristle on the antero-dorsal surface and two apical spines.

“Wings hyaline, with a brown cloud as shown in fig. 7 (almost as in fig. 5*a* of the present paper).

“Abdomen bronze-green, varying from brassy to cupreous in certain lights, the apical segments brilliant bluish, the incisures blackish or dark bronze; hair black.

“Described from a single female from Kandahar, January 27, 1918 (Fause).”

There are in the collection: 2♂, Nyaka, Port. E. Africa, February 1924; ♂, 2♀, Masiene, Port. E. Africa, December 1923; ♂♀, Inhambane, Port. E. Africa, January 1924, all collected by Mr. R. F. Lawrence.

Condylostylus pateraeformis Becker.

(Figs. 5, 5a.)

Syn: *Condylostylus alter* Beck. Ent. Mitt., vol. xii, p. 39, 1923.

Readily distinguished in the male by the peculiar wing venation (fig. 5), shape of genitalia and middle tarsi; the female is quite different, the wings being marked by two black costally connected fasciae, the legs paler, etc.

Length, 5 to 6 mm. *Male*.—Face narrow, with nearly parallel sides on the lower half, moderately, gradually broadened above, argenteous white pollinose. Front rather narrow, brilliant dark blue. Occiput green, greyish pollinose, the beard white. Palpi small, black, black haired; proboscis reddish brown. Antennae black, the third joint but little larger than the second which has only the usual dorsal and ventral bristles; arista black, slender, but little longer than the face.

Mesonotum bright blue, often more or less brassy green in front where there is also a broad band of whitish pollen. Pleura greyish white pollinose. Scutellum with more or less violaceous reflection.

Anterior coxae yellow, with narrow brown base, the others brownish with pale apices, greyish pollinose and with fine white pile, the anterior ones with several black bristles. Femora, hind legs wholly, and all the tarsi, black; the bases and apices of the femora, more or less, and the anterior four tibiae, yellowish, although the middle tibiae may be brownish yellow and are always broadly brown or blackish on the apex. Front legs missing. Femora without unusually long hairs beneath, although the fine, pale hairs are almost as long as the width of the femora. Middle tibiae slightly swollen on the middle portion and also at the apex, their tarsi with the last three joints strongly broadened and with black marginal hair. Hind legs simple.

Wings hyaline, with black markings and venation as shown in fig. 5. Squamae and halteres black, the former with just the corners brown and bearing white cilia.

Abdomen blue, the apical segment bronzed, the broad bases and sides of the segment blackish bronze and subopaque on the immediate base. Genitalia black, the outer lamellae brown, with brownish hairs. Abdomen with black hairs and bristles.

Female.—This sex was described by Becker as a distinct species, but he suspected that it was the female of *pateraeformis*, which is undoubtedly the case. Face about twice as wide as in the male, but still narrow for a female, more or less greenish above. Wings as in fig. 5a, the markings blackish. Femora and front four tibiae reddish

yellow, the hind femora broadly black on the apex; base of anterior four tarsi paler than the apical joints. Legs simple. Abdomen differing only sexually.

There are 8 females and 1 male from Mulange, Uganda, collected in November 1922 by Mr. R. Dummer. These specimens are from the type locality (Uganda). In his description of the female Becker included South African and Ugandan material, but it appears probable that the South African specimens represent the species I have described as *C. imitator* (see *imitans* above). Should Becker have selected his type from the South African specimens his *C. alter* would be a good species, but this seems unlikely, and it will be impossible to definitely decide the status of these species until the types are compared. Becker's description and figure agree with the females described above much better than with *imitans*.

Hercostomus Loew.

There are representatives of four species of *Hercostomus* in the collection, two of them new to science.

Table of Species.

Males.

1. Anterior tarsi with the two subapical joints greatly enlarged, the apical one slightly so and white in colour; abdomen partly luteous *perturbus* Curran
Anterior tarsi plain or practically so 2
2. Apical joint of front tarsi whitish and white pilose; hind tarsi wholly black from middle of first joint *nectarophagus* Curran *
Front tarsi black from apex of first joint; apical three joints of hind tarsi argenteous in front *argyropus* Loew

Females.

1. Abdomen either with pale fasciae or lateral yellow spots on the second and usually the third segments 2
Abdomen greenish, at most the venter yellow 3
2. Base of abdomen luteous, except the apices of the second and third segments *perturbus* Curran
Second and usually the third segment with yellow, rounded, lateral triangles *nectarophagus* Curran
3. Posterior tibiae with well differentiated black or brown apex *argyropus* Loew
Posterior tibiae without blackish apex, if darker than the base the infuscation is extremely gradual and slight 4
4. Posterior coxae wholly pale; antennae almost all black . . . *eronis* n. sp.
Posterior coxae brown on outer side; first two antennal joints reddish yellow *disjectus* n. sp.

* Rev. Zool. Afric., vol. xii, p. 470, 1924.

Hercostomus perturbus Curran.

Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 225, pl. vii, figs. 10a, 10b, 1924.

Length, 4.25 mm. *Male*.—Face very narrow below, six times as wide at the antennae, silvery white. Front silvery white in some views, only the ocellar area brownish. Occiput blackish green, with some reddish-brown pollen. Antennae brownish, the last two joints missing. Palpi small, white; proboscis reddish yellow.

Mesonotum rather dark olive-greenish black, with moderately thin greyish-brown pollen; prothorax entirely, the humeri, the border of all the pleural sclerites, the coxae and the legs, yellowish, the pleural sclerites greenish black, but densely whitish or greyish pollinose, so that the ground colour is largely obscured. Scutellum dark green, its apex only slightly convex, its two large bristles black.

Coxae with black hairs. Middle and hind tibiae each with three antero-dorsal and two dorsal black bristles. Front tarsi brown, the last joint yellow, the first two joints subequal in length, the following joints much compressed and widened, almost straight on the lower edge, the upper edge strongly convex, widest just beyond the middle of the fourth joint, the fifth joint but little widened; the dorsal fringe of hairs is conspicuously white on the apical third of the fourth and whole of the fifth joints, elsewhere black. Middle tarsi brown from the apex of the first joint, the posterior ones wholly so. First joint of the posterior tarsi distinctly shorter than the second.

Wings slightly tinged with brownish, the fourth vein rather strongly approaching the third. Squamae and halteres yellow, the former black ciliate.

First three segments of the abdomen brownish red, the fourth with a lateral spot of the same colour, the apices of the second and third and the whole of the remaining segments shining blackish, with some evident brownish-red pollen, especially noticeable laterally. The short hairs are rather tawny, the usual short bristles black. The first two sections of the genitalia are brownish, the remainder yellow. The outer genital lamellae are moderately small, fringed with dense whitish or yellowish hair.

Female.—The face is wider and the usual concavity is present. The front is shining not silvery-white pollinose, but rather purplish; third antennal joint as wide as long, the apex rounded. Legs simple, reddish yellow, the femora brownish at apex above, the posterior tarsi

wholly, the last two or three joints of the remaining tarsi pale brownish.

A female from East London, collected by Mr. Lightfoot, in the collection; a second specimen with the abdomen less extensively pale from Barberton, collected by Mr. Munro. The male was from Pretoria.

Hercostomus argyropus Loew.

Length, 5 to 5.5 mm. *Male*.—Face narrow, silvery white. Front blue, thinly yellow pollinose. Occiput black, covered with dense greyish pollen. Antennae yellow; third joint black, longer than wide, subcordate, its upper edge beyond the insertion of the arista concave so that it is rather pointed at the apex; arista dorsal, brown. Palpi reddish, with white pollen and fine white hairs; proboscis reddish.

Mesonotum olivaceous, with a steel-blue reflection in some lights, the olive-brown pollen moderately dense, forming obscure vittae in some lights; the sides before the wings are greyish pollinose. Pleura blackish green with slight bronze reflections, densely covered with greyish pollen. Scutellum deep blue-green, with several small, black discal hairs and thinly covered with tawny pollen.

Legs pale yellowish, the middle coxae brown except apically and inwardly, the anterior coxae with pale hairs and black bristles. Apices of the posterior four tibiae and all the tarsi from the apex of the first joint brown, the front ones somewhat paler, the posterior basitarsi over half brown, the middle ones slightly swollen and almost white at their immediate base, the tips of the anterior four tarsal joints slightly darkened at their apices so as to form annules in some lights. Last joint of the middle tarsi rather reddish, the posterior tarsi with the apical three joints slightly compressed and with their anterior surface silvery white, the first joint of the hind tarsi slightly shorter than the second.

Wings tinged with brownish. Squamae and halteres yellow, the former black ciliate.

Abdomen dark green or bronzed, the sides rather densely greyish pollinose. Genitalia blackish or brown, that portion lying next to the body and the appendages yellow, the remainder thinly greyish pollinose. Lamellae small, crescent shaped, fringed with black hairs.

Female.—Face much wider, concave above, silvery pollinose; front less shining. Legs simple, without the silvery surfaces.

There is a single female in the collection from Oudebosch, Caledon Div. (K. H. Barnard), December 1920.

Hercostomus eronis n. sp.

Allied to *argyropus* Lw., but the antennae are almost wholly black, the first joint being obscurely reddish beneath, and the legs are differently coloured.

Length, 4.5 mm. *Female*.—Face moderately wide, argenteous pollinose. Front with dense, similar pollen. Occiput almost black, greyish pollinose, white pilose below. Palpi and proboscis orange yellow, with black hairs, the latter somewhat tinged with brownish on the margins. Antennae black, the first joint obscurely reddish below, black haired above. Arista black, with short, black pubescence.

Mesonotum bronze black, with conspicuous covering of brownish pollen. Pleura pale greyish pollinose.

Coxae yellowish, the middle ones with a pale brownish stripe on the outer side, their hairs and bristles all black. Legs yellowish, the hind tarsi brownish from the base, the others from the apex of the first joint, the posterior femora slightly brown at the apex above.

Wings faintly brownish, the fourth vein rather strongly approaching the third. Squamae and halteres yellow, the former black ciliate.

Abdomen dark green, becoming more or less bronzed towards the apex, the sides thinly greyish pollinose. Ovipositor with two narrow, scale-like spines. Hairs of abdomen practically all black.

Described from a single female collected at Oudebosch, Caledon Div., 10th December 1920, by Mr. R. M. Lightfoot.

Hercostomus disjunctus n. sp.

A single specimen in rather poor condition is sufficiently well characterised to warrant description. The head is largely covered with some gummy substance.

Length, 4 mm. *Female*.—First two antennal joints reddish, with black hairs. Front argenteous pollinose, the face probably similar. Mesonotum damaged. Pleura and coxae greyish pollinose.

Anterior coxae reddish yellow, the others blackish, with pale inner surfaces and apices, and all clothed with short, bristly hairs and longer black bristles. Legs reddish yellow, the tarsi all with the basal joint pale except on the apex, the remaining joints brownish, the hind femora slightly darker on apex above.

Wings light brownish. Squamae and halteres yellow, the former black ciliate.

Abdomen green with bronze reflections, greyish pollinose except the segmental bases and middle line; black haired. Genitalia retracted.

Female.—Ceres Division, Matroosberg, 3500 ft., January 1917, collected by Mr. R. M. Lightfoot.

VAALIMYIA new genus.

Allied to *Pelastoneurus* Lw. and *Hercostomus* Loew, both of which it resembles in having the wide concave face in both sexes, thinly short plumose arista, and the acrostical bristles in two rows. It differs from them in having the fourth longitudinal vein produced forward at a right angle at about half the distance between the large cross-vein and edge of the wing, as shown in fig. 6. Genotype: the following species.

Vaalimyia violacea new species.

(Figs. 6, 6a.)

Length, 3.5 mm. *Male*.—Face greyish pollinose, with a large violaceous triangle immediately below the antennae visible from certain angles, the upper two-thirds of the face depressed, the lower portion almost perpendicular, reaching in the middle almost to the lowest level of the eyes; face about one-fourth as wide as head width. Front wider than the face, brilliant purplish. Back of head green, ochreous pollinose above the neck, snow-white pollinose below, the orbital bristles yellow on the lower half, black above. Antennae dull orange, the third joint chiefly brown, the arista brown; first antennal joint with black hairs above, third joint shaped as in fig. 6a. Palpi small, reddish brown, with black hairs; proboscis of the same colour, thick, retractile.

Mesonotum and scutellum brilliant violet, the latter more metallic blue on the basal half, the former with the prescutellar depression bronze-gold pollinose; sides darker. Pleura blackish green, greyish pollinose; a single, strong black bristle above the anterior coxae.

Legs simple, reddish yellow, including the front coxae and apices and inner surfaces of the remaining ones. Posterior femora black above at apex, their tibiae with black apical band and their tarsi of the same colour. Anterior four tarsi brown from the tip of the first joint to the apex. Coxae and legs with black hairs and bristles, the former greyish pollinose. First joint of hind tarsi much longer than the second, the last three joints missing, but probably not ornamented.

Wings (fig. 6) tinged with brownish before the third vein and along all the veins. Halteres and squamae yellow, the latter black ciliate.

The abdomen is blackish green with darker incisures, the sides rather thickly greyish pollinose. Genitalia greenish black, greyish

pollinose, large, reaching two-thirds the distance to the base of the abdomen, the outer lamellae broadly oval, with short, wide stem, orange in colour, with black border, short black hairs and long, black cilia on the margin.

Female.—Differs only sexually; the third antennal joint is much shorter, being only slightly longer than wide and much less pointed. The black spot above the apex of the hind femora is not conspicuous.

Described from two males and one female from Transvaal. Type ♂, Komati Poort. Type ♀, Kaapmuiden; paratype ♂, Acornhoek (R. W. E. Tucker); and one ♀ paratype, Nyaka, Port. E. Africa, February 1924, collected by Mr. R. F. Lawrence.

Tachytrechus Walker.

There are ten described species belonging to this genus recorded from Africa, four of which are found in South Africa. Of these only one species is represented in the collection.

Synopsis of Species.

- | | |
|--|-------------------------|
| 1. Femora black on basal half; antennae black, except just the lower apex of the first joint | <i>bracteatus</i> Wied. |
| Femora reddish yellow, at most the narrow bases black | 2 |
| 2. Antennae black | <i>abscoenus</i> Wied. |
| Antennae with the first two joints reddish yellow | 3 |
| 3. Last section of the fourth vein practically straight | <i>alternatus</i> Curr. |
| Last section of the fourth vein distinctly bent forward before the middle | <i>capensis</i> Curr. |

Tachytrechus capensis Curran.

Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 223, pl. vii, fig. 10, 1924.

Length, 5.5 to 6 mm. *Female*.—Face shining brownish-yellow pollinose, its ground colour when visible green; front with similarly dense but less shining pollen. Occiput green with yellowish pollen above, silvery white pollen below. Antennae reddish, the third joint brown with a whitish reflection, subquadrate, its corners rounded, its base a little wider than its apex, the brown arista inserted about the middle of the upper surface of the joint. Palpi and proboscis brown with tiny black hairs, the former yellowish pollinose in some lights.

Mesonotum rather brownish pollinose, leaving a narrow olivaceous vitta on either side of the middle line, the middle line more bronzed in some lights; each bristle is inserted in a dark circle so that the colours contrast quite strongly in certain views; the posterior depression and a wide lateral presutural vitta are dark green with whitish or greyish pollen and the usual darker area is present above

the wings. Pleura dull green, the middle part more or less cupreous, densely whitish-grey pollinose.

Coxae blackish green, densely whitish-grey pollinose, with black hairs and bristles. Legs reddish, the apices of the posterior four tibiae and their tarsi wholly brown, their basitarsi, except sometimes the hind ones, paler on the basal half or more; front tarsi brownish red except the basal four-fifths of the basitarsi which are reddish. Middle femora with one upper and one lower anterior preapical bristle and one posterior one, the posterior femora with only one distinct preapical bristle in front, but with a row of three or four long bristles on the apical half of the upper surface.

Wings tinged with brown, the last section of the fourth vein decidedly curved forward before its middle. Squamae and halteres yellow, the former with black cilia.

Abdomen bright green or blue-green, the terminal segment brilliant blue, the apices of the segments rather broadly cupreous, the sides of the second segment similarly coloured; the conspicuous whitish pollen is more dense on the sides and forms large triangles on the front of the segments.

Male.—Genitalia purplish or bluish, with greyish pollinose reflections. Outer lamellae blackish with thin brownish-yellow pollen, their hairs entirely black.

There are two males and three females collected by Mr. R. M. Lightfoot at East London, in November 1915; and one male, Nyaka, Port. E. Africa, February 1924, collected by Mr. Lawrence.

Medetera Fischer.

The species belonging to this genus are usually found on the trunks of trees, and are almost always dull in colour, as well as being rather small. Five species, separable by the following synopsis, are to be found in South Africa.

Synopsis of Species.

- | | |
|--|---------------------------|
| 1. Lower section of the face argenteous pollinose, the face and front similarly clothed, the ground colour almost all hidden | <i>normalis</i> Curran |
| Lower section of the face not wholly argenteous, the middle broadly shining | 2 |
| 2. Basal half of the anterior four and more than half of the posterior femora blackish | <i>praedator</i> n. sp. |
| Front four femora wholly pale, or but little darkened towards the base | 3 |
| 3. Pollen of the mesonotum rich brownish; propleural bristles clear white | 4 |
| Pollen of the mesonotum greyish although the bronze ground colour gives the appearance of a brown tinge | <i>penura</i> n. sp. |
| 4. Face dark green, the pollen not dense | <i>longitarsis</i> Curran |
| Face densely brown pollinose | <i>simplicis</i> Curran |

Medetera praedator n. sp.

Length, 2 to 2.5 mm. *Male*.—Face brownish pollinose, the lower section shining black, often metallic bronzed. Front with similar pollen to that on the face but it is not so abundant above and is paler in colour laterally. Orbital cilia whitish, a few of the lower ones blackish. Palpi and proboscis shining black, the antennae black.

Mesonotum bronzed, thickly covered with greyish-brown pollen which leaves two conspicuous paler vittae separated by the acrostical bristles. Pleura concolorous with the dorsum, but less thickly and paler pollinose. Two or three black propleural bristles. Scutellum greyish pollinose, with four bristles, the outer pair small.

Legs reddish yellow, the femora in mature specimens black on slightly more than the basal half, but in teneral specimens there may be only a little black on each femur. The tarsi become black at the apex and the last joint is somewhat widened. Coxae black, the anterior ones with blackish hairs. Posterior basitarsi about one-third as long as the following joint.

Wings subhyaline, slightly tinged with fuscous yellow, especially in front. Halteres and squamae yellow, the latter white ciliate.

Abdomen and genitalia deep shining black, the inner lamellae brownish red, the small outer ones black; hair all black.

Female.—Similar except sexually.

Described from fourteen specimens of both sexes from East London, 17th, 19th, and 21st February 1924, collected by Mr. H. K. Munro. The two types are returned to Mr. Munro: paratypes are in the South African Museum and in the author's collection.

Medetera penura n. sp.

Length, about 3 mm. *Male*.—Face moderately wide, grey-brown pollinose, the lower section shining black with the sides pollinose. Front with similar pollen to that on face. Orbital cilia white. Palpi greenish black, with metallic green reflection in some views; proboscis and antennae black.

Thorax and scutellum tawny brown pollinose, the vittae of the mesonotum not distinct. Ground colour blackish green. Scutellum with four bristles, the lateral pair two-thirds as long as the apical. Normally there are two reddish bristles on the propleura.

Coxae blackish with a thin covering of tawny brown pollen, their hairs reddish or yellow, rarely appearing brown. Legs reddish, the hind femora black on the basal half, the middle ones sometimes slightly darkened basally. Tarsi darkened apically.

Wings cinereous hyaline, their base yellow. Squamae and halteres yellow, the former white ciliate.

Abdomen bronze-black, rather thickly covered with yellowish pollen. Genitalia shining black, the lamellae brown, the inner pair larger than the outer, bare, the outer ones with black hairs.

Female.—Differs only sexually.

Described from five specimens collected by Mr. H. K. Munro at East London on 17th and 21st February 1924. The type pair has been returned to Mr. Munro. A male is deposited in the South African Museum.

Medetera normalis Curran.

Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 226, 1924.

Length, 3 mm. *Male*.—Head silvery pollinose, the ground colour bluish where at all evident. Antennae brown, the third joint with evident white pubescence; arista above the middle of the small cordate third joint, slender. Palpi shining black, with a few black hairs, the proboscis of the same colour.

Thorax green, rather densely covered with whitish-grey pollen, that bordering the posterior depression brownish yellow; the narrow middle line and a narrow vitta on either side bronze coloured in some lights. Scutellum rather flat, with four black bristles, the outer ones about half as long as the inner.

Coxae and femora blackish, the anterior coxae with coarse yellow or golden yellow pubescence. Broad apices of the femora and all the tibiae and tarsi reddish yellow, the latter scarcely darkened apically. First joint of the posterior tarsi one-third as long as the second, the third much longer than the first, the fourth almost as long as the first. The first joint of the anterior tarsi is slightly longer than the second. The hairs of the legs are very short and inconspicuous, except above the hind femora.

Wings hyaline; the fourth vein approaches the third, its last section straight, the tips of the two veins moderately separated; the distance between the third and fourth veins opposite the posterior cross-vein is equal to almost twice the length of the cross-vein, which is rectangularly placed. Squamae and halteres pale yellow, the former with white cilia.

Abdomen green, moderately covered with greyish-white pollen, the hair yellowish, that on the first segment black. Hypopygium shining black, its small apical appendages shining brownish red, the slender

inner processes yellow; the basal parts ciliated with a little short yellow hair, the lamellae bare.

Female.—Differs only sexually.

In addition to the original specimens, I have seen over a dozen others collected by Mr. Munro at East London during February 1924. A pair of these are donated to the South African Museum.

Aphrosylus Walker.

This genus has not been previously recognised from South Africa, and is represented by a single species which is described below. It is possible that *A. griseatus*, described herewith, is the same as some European species, but in the absence of specimens from that region for comparison, it is considered advisable to describe it in order that others may be able definitely to associate South African specimens with something already named.

Aphrosylus griseatus n. sp.

(Figs. 7, 7a, 7b.)

Length, 2.75 to 3.25 mm. *Male*.—Head brownish in ground colour, the face and occiput very densely greyish pollinose, the front less thickly so, while the region of the neck is brownish pollinose. The cilia on the upper half of the occiput are black, on the lower half pale yellowish or almost white and fairly fine. Palpi reddish, with darker base, the proboscis with similarly coloured apex, both densely grey pollinose, the former with some fine black hairs. Eyes whitish or yellowish pilose. Antennae black, shaped as in fig. 7b. The face is concave on the upper portion, the lower section more or less roof-like above the palpi.

Thorax and abdomen brown, densely grey pollinose. The acrosticals are small and widely separated, arranged usually in pairs, each pair towards the caudal end successively closer to each other; they reach only to the middle of the thorax or a little beyond in most specimens and are often difficult to see. Posterior fourth of the mesonotum concave. Two hair-like yellow propleural bristles. Scutellum with four marginal bristles of almost equal size.

Coxae and legs with dense grey pollen, the coxae and femora brown, with pale apices, the tibiae and tarsi reddish, the latter with the terminal joint brown and somewhat broadened; the abundant pollen makes the colour of the legs very deceptive, and it is possible that the femora are largely pale apically; the posterior femora are bare on

the median half of the posterior surface. The hair on the legs is short, erect or suberect, black. The first joint of the anterior tarsi is hardly as long as the four following joints, the middle ones have the first joint decidedly longer than the remaining, while on the hind legs the first two joints are subequal. Legs simple. The hind coxae bear a median bristle on the outer surface, the remaining coxae are sparsely clothed with black bristly hairs.

Wings (fig. 7) dull greyish brown, appearing as though they had been wet. Squamae and halteres yellow, the former finely yellow ciliate.

Outer genital lamellae leaf-like, elongate-oval, yellowish brown, grey pollinose; the inner lamellae, etc., shining brown. Abdomen with sparse black appressed hairs (fig. 7a).

Female.—Differs only sexually.

This description is from the following specimens collected by Mr. H. K. Munro on the Beach at East London: 7 ♂, 12 ♀, 17th February; 3 ♂ and 2 ♀, 14th February 1919.

Hydrophorus Fallen.

Distinguished from other genera by the presence of spines beneath the anterior femora, absence of mammiform process below the squamae, and by the posterior cross-vein being situated close to the wing margin. The following synopsis separates the two species contained in the collection:—

A. Upper portion of the face brilliant green	<i>spinicornis</i> Loew
AA. Face wholly greyish pollinose	<i>praecox</i> Lehm.

Hydrophorus spinicornis Loew.

Length, 2.5 to 3 mm. *Female*.—Face moderately wide, yet wider on the lower half, the upper portion brilliant green, still, very lightly greyish-yellow pollinose, the lower portion greyish pollinose laterally, yellowish in the middle. Front greyish-brown pollinose. Occiput grey pollinose, the beard whitish. Palpi of same colour as middle of face, with fine white hairs. Cheeks produced as a wide rim below the eyes. Antennae black, the third joint brown, subcordate, a little longer than wide; arista long, the basal section longer than the third antennal joint.

Mesonotum blackish bronze, with purplish tinge in some lights, rarely with greenish reflection, except at the sides; on the middle is a large, rectangular, brown pollinose spot reaching from just before

the suture to the prescutellar depression and extending to just outside the acrostical bristles, between each of which is a pale spot. Pleura green, with bronze reflections; grey pollinose. Scutellum bronzy, the corners green; bearing four bristles.

Legs green; tarsi black, the hind ones brown. Coxae densely grey pollinose and white pilose. Front femora with an anterior and posterior row of spines on the ventral surface, the spines rather fine and decreasing in length from the base, both rows interrupted near the middle; neither row reaches the apex, but the hind row is shorter; on the basal half of the postero-ventral surface are several long, fine white hairs. Front tibiae with an entire row of fine short bristles on the ventral surface, the terminal one not strengthened nor long; above with four small bristles. Tarsi simple. Legs otherwise not distinctive, their hairs black.

Wings hyaline. Squamae and halteres yellow, the former white ciliate.

Abdomen green, with bronze reflections, the sides thickly grey pollinose, the dorsum moderately covered with brownish pollen. Abdominal hair black.

The male genitalia are small.

There are four female specimens of this pretty species in the collection, three from Cape Town, collected by Dr. Péringuey in 1913, and one from Junction of Crocodile and Marico Rivers, Transvaal, February 1918, collected by Mr. R. W. E. Tucker.

Hydrophorus praecox Lehm.

Owing to the fact that no male specimen is present in the collection, I quote the description of Lundbeck, as given in the English edition of part 4 of his *Diptera Danica*.

“*Male*.—Length, 2·5 to 4·5 mm. Head as high as broad; vertex and frons aeneous, somewhat greyish pruinose at the sides. Face broad, greyish white, the palpi of the same colour. Occiput greenish, grey pruinose; postocular bristles black, the hairs below white. Jowls distinct, not broad, grey. Antennae black, third joint slightly longer than broad, pointed; arista a little longer than the antennae. Thorax olive, sometimes greenish, especially at the sides, and more or less with coppery reflections, a little pruinose, somewhat shining; in the middle there is a dark stripe divided by a very fine pale line, and to each side of the dark stripe the green colour forms more or less distinct stripes; dorso-central bristles numerous. Scutellum with four bristles. Pleura greenish or aeneous, densely whitish grey

pruinose; propleura with grey hairs and one black prothoracic bristle. Abdomen somewhat flattened, greenish, aeneous or coppery, rather densely greyish white pruinose; it is somewhat densely covered with pale hairs a little longer at the sides. Venter grey. Hypopygium generally quite hidden. Legs quite green, coxae light grey pruinose, femora and tibiae somewhat pruinose, the tarsi blackish. The legs have short black hairs intermingled with pale pubescence, the latter especially distinct towards the end of the tibiae and on the tarsi; coxae pale haired; front femora with a row of short spines below towards the anterior side, the front tibiae with a row of short spines below, the apical one large and strong, besides with a few small dorsal bristles; posterior femora and tibiae with various scattered, not long, bristles. Wings somewhat long, hyaline; veins black, paler towards the base; the last part of the discal (fourth) vein slightly curved, a little converging towards the cubital (third) vein. Squamae whitish, with white fringe. Halteres whitish or whitish yellow.

“*Female*.—Face not broader than in the male. Front femora with two rows of spines, as there is, besides the row found in the male, one more posteriorly; apical spine below the front tibiae shorter than in the male.”

Five specimens, all females, agree almost perfectly with specimens from Denmark. Until the male is compared with European specimens there must be a slight doubt about the South African specimens being *praecox*.

Liancalus Loew.

This genus is readily distinguished from all others in the family by the long mesopleural process projecting along the posterior outer base of the anterior coxae. Only the following new species is known from South Africa, while *L. virens* occurs in northern Africa and Europe. These are among the largest and most brilliantly coloured members of the family, and the males usually possess a striking pale apical spot on the wing.

Liancalus peringueyi n. sp.

(Figs. 8, 8a.)

Allied to the European *L. virens*, but the face and front are much darker, the second joint of the anterior tarsi is densely short black haired on the postero-ventral surface and the wings are much less extensively fuscous.

Length, 8 mm. *Male*.—Face wide, brilliant deep green, but covered with abundant brownish pollen which becomes paler along the orbits

and above. Front of the same colour but the pollen blackish brown except below and above. Occiput grey pollinose, the bristles black, with a few of those towards the lower edge of the eyes yellowish, the sparse beard also yellowish. Palpi large, brown pollinose, with black hairs. Antennae black; first joint bare above; third joint broader than long, with a broadly rounded point, the arista inserted beyond the middle of the joint, slender, about as long as an eye.

Mesonotum rather dull greenish, with four purplish-bronze vittae, the median ones ending at the posterior third, the lateral abbreviated at either end and interrupted at the suture; between these vittae a more or less distinct violaceous one. Pleura greenish, grey pollinose. Scutellum violaceous, its sides green; bearing six long marginal bristles.

Legs blackish green, the femora and coxae grey pollinose, the tarsi blackish. First joint of the anterior tarsus almost as long as the remaining joints combined, slightly swollen at apex; second joint short, not longer than the fourth, compressed and broadened (higher than wide), with silvery reflection below, its anterior edge densely beset with short black bristles which are curved at the apex; third segment longer than the second, silvery on the lower surface, scarcely widened. Claws of all the tarsi long and slender. Coxae with short, fine yellowish pile. Legs short black haired except that the bases of the femora have some fine pale hairs.

Wings hyaline, except the brownish areas shown in fig. 8. Squamae and halteres yellow, the former yellow ciliate.

Abdomen bright deep green, the sides very densely pale grey pollinose, the broad posterior margin of each segment expanded anteriorly in the middle, brown pollinose on more blackish ground. Sixth segment green, the genitalia blackish, with long filamentous outer lamellae. Abdomen yellow haired, the basal bristles black.

Female.—Similar in colour to the male but the front is less thickly pollinose, the green ground colour being quite evident, and the middle line of the abdomen and narrow bases of the segments are brown pollinose. The wings are without maculation, the legs simple.

Type male, Cape Town, Table Mountain, October 1917, collected by Mr. K. H. Barnard; type female, and another female, Matroosberg, Ceres Division, January 1917, collected by Mr. R. M. Lightfoot.

Sympycnus Loew.

Six species belonging to this genus have been previously recorded from Africa. An additional species is here described.

Table of Species.

Males.

- | | |
|--|-------------------------------|
| 1. Apical two joints of front tarsi white | <i>nectarophagus</i> Curran * |
| Fore tarsi without whitish apical joints | 2 |
| 2. First three joints of hind tarsi considerably thickened and bearing abundant short black hair, the fourth joint longer than the third | <i>caffer</i> Loew |
| Third joint of hind tarsi much longer than the shortened fourth joint, the basal joints normal | <i>simplex</i> n. sp. |

Females.

- | | |
|--|-----------------------|
| 1. Hind femora entirely pale, or pale brownish on only the upper apical half or less (2.5 mm.) | <i>caffer</i> Loew |
| Hind femora brown above on almost their whole length (over 4 mm.) | <i>simplex</i> n. sp. |

Sympycnus caffer Loew.

Length, 2.5 mm. *Male*.—Thorax metallic green in ground colour, the abdomen blackish bronze with some yellow markings. Face very narrow on the lower half, gradually increasing in width on the upper half, wholly greyish pollinose. Front almost black, with a covering of brownish pollen which almost conceals the ground colour. Occiput dark metallic green covered above with brownish grey, below with grey, pollen, the orbital cilia black, the hairs below short, fine, white. Palpi small, subtriangular, pale yellowish. Antennae wholly black; third joint broader than long, subtriangular; arista black, slender, longer than the face.

Mesonotum brownish pollinose, leaving an almost bare vitta between the acrostical and dorsal-central bristles, but the ground colour is usually very apparent over the whole surface. Pleura grey pollinose.

Legs, including the coxae, yellow, only the middle coxae brownish on the outer half. The posterior femora are brownish above on the apical half, their tibiae brownish with yellow ventral surface, the colours diffuse. The hind tarsi are wholly black, while the last four joints of the anterior four and apex of the first joint are brownish, the joints with darker apices. The hind tarsi are shaped as described in the synopsis of the species, the third joint with a short, stout, apical spine below on each side, the last two joints slender, and longer than the second and third. The hair on the legs is all black and is quite short for the most part; on the hind tibiae it is moderately abundant and subciliate as it forms a dorsal and anterior longer row from base to apex, the anterior row being much longer and stronger and situated

* Rev. Zool. Afric., vol. xii, p. 472, 1924.

below the middle. The first three posterior tarsal joints bear rather abundant short black hair.

Wings lightly infuscated, the posterior cross-vein slightly beyond the middle of the wing and very slightly oblique; the fourth vein approaches the third slightly, the slight forward curvature taking place at the basal fourth of the last section. Squamae yellow, with slightly darker margin and black cilia. Halteres yellow.

Abdomen with the venter yellow on more than the basal half, the sides of the first segment also yellowish. The second segment is somewhat variable in colour; normally it is brownish yellow, with a narrow median vitta and the hind margin bronzed, the yellow colour concave behind so that the dark colour again approaches the base at the sides, but the pale colour may be much less extensive than described. Genitalia normally hidden, the outer lamellae short, rather filamentous.

This species is represented in the collection by two males collected at Durban, Natal, August 1920. I have also thirty-two specimens of both sexes from East London, 17th and 23rd February 1924; male, Port Shepstone, 21st August 1920. This latter lot were all collected by Mr. H. K. Munro.

Sympycnus simplex n. sp.

Length, 4 to 4.5 mm. *Male*.—Eyes almost touching below the middle of the greyish face which is slightly widened below and quite wide at the antennae. Front evidently bronze green, covered with brownish pollen. Occiput hidden. Palpi small, triangularly oval, yellow in colour and bearing two or three yellow bristly hairs. Antennae black; third joint triangular, with rounded angles, not quite one-and-one-fourth as long as wide; arista sub-basal, black.

Thorax moderately greyish? (or yellowish brown?) pollinose, probably leaving either two or four rather bare vittae, but it has been wet and I am not able to make certain of this point. Pleura greyish pollinose; scutellum almost without pollen.

Legs, including the coxae, yellow, but the posterior four coxae are brown on the anterior and exterior surfaces except on the apices; the posterior femora are brown on the upper surface, their tibiae tinged with brown, the posterior tarsi wholly and the remaining tarsi except the basal three-fifths of the first joint brown or black, the bases of the joints of a slightly paler colour. The first joint of the front four tarsi is almost as long as the remaining four joints combined, while the first two joints of the hind tarsi are of almost equal length. Legs simple, with normal black hairs. Coxae with pale pile.

Wings quite smoky, especially in front. The posterior cross-vein is situated before the middle of the wing and is almost rectangular, the fourth vein approaches the third slightly towards the wing margin, its last section having a slight anterior angulation situated at about the basal two-fifths. Squamae yellow, with black margin and cilia, the halteres yellow.

Abdomen blackish bronze; genitalia small, concealed.

Female.—Differs only sexually; the face is less than one-fifth the head width, slightly widened above and below. The third antennal joint is wider than long, rounded apically.

Type male, Oudebosch, Caledon Div., 1500 ft., January 1919, collected by Mr. K. H. Barnard; type female, same locality, December 1920, collected by Mr. R. M. Lightfoot.

Asyndetus Loew.

This genus is allied to *Diaphorus* Mg., but is readily distinguished by the termination of the thickened portion of the costa at or slightly beyond the tip of the third vein and the location of the cross-vein beneath or before the apex of the first vein. Three species have been recognised from Northern Africa, while there are apparently two undescribed species before me.

Asyndetus crassitarsis n. sp.

Length, 3 mm. *Male*.—Face about one-fifth the head width, green, densely argenteous grey pollinose; front metallic green, almost without pollen; occiput of the same colour, grey pollinose. Beard white. Antennae wholly black, the third joint scarcely longer than broad, its apex broadly rounded; arista almost as long as head height, finely short pubescent. Palpi green, clothed with greyish pollen and black hairs; proboscis blackish.

Thorax and scutellum dark metallic green, the mesonotum with bronze reflections and a darker bronze vitta on either side of the middle line. Dorso-central bristles in four pairs, unusually strong; a single weak bristle above the front coxae. Thorax greyish pollinose, the dorsum only thinly so.

Legs metallic blackish green, greyish pollinose, black haired; knees and the anterior tibiae reddish. Anterior tarsi with the first joint as long as the following three, slender, the fourth a little broadened and flattened, the fifth slightly broader than the fourth, but little longer than wide, flattened.

Wings cinereous hyaline, the fourth vein evanescent opposite the apex of the fifth; there is an indication of a vein running to the apex of the wing, but it lies considerably closer to the costa, its inner end closer to the base of the wing than the apex of the fourth vein. The posterior cross-vein is slightly oblique and joins the fourth vein slightly beyond the tip of the first vein. Squamae and halteres pale yellowish, the former white ciliate.

Abdomen dark green, with brassy reflections and moderately clothed with greyish pollen, which is a little thicker at the sides. Genitalia black, with four stout apical bristles, the lamellae small, shining black, the genitalia elsewhere greyish pollinose. Hairs of the abdomen all black.

Described from a single male from Kaapmuiden, Transvaal, 30th October 1919, collected by Mr. R. W. E. Tucker.

Asyndetus indifferens n. sp.

Length, 3 mm. *Female*.—Very much like the preceding, but the anterior tibiae are wholly dark, only the narrow knees reddish. The palpi are black, broader and smaller, the antennae smaller. The only differences, except in the wings and colour of the legs, are sexual. The fourth vein is not so completely broken as there is an indication of a junction of the fourth vein proper with the detached portion, the inner end of which does not reach so close to the base of the wing, and the vein itself is not as close to the costa as in *crassitarsis*.

A female labelled M'fongosi, Zululand, December 1916, collected by Mr. W. E. Jones.

This may prove to be the female of *crassitarsis* but it does not seem likely that it is so. As a rule the legs of the females are paler coloured than in the males, and for this reason I feel certain that it is a different species. The two species may be readily separated as follows:—

- | | |
|---|----------------------------|
| A. Anterior tibiae wholly yellow, the tip but slightly darker | <i>crassitarsis</i> n. sp. |
| AA. Anterior tibiae brown, the very narrow base reddish | <i>indifferens</i> n. sp. |

Diaphorus Meigen.

Syn: *Munroiana* Curran, Ann. Transv. Mus., vol. x, pt. 4, p. 229, 1924.

The collection contains five specimens, three of which belong to an undescribed species. The adults of this genus are not uncommon about honey dew.

Table of Species. Males only.

- | | |
|---|--------------------------|
| 1. Two or three abdominal segments chiefly yellowish | 2 |
| At most the venter yellowish | 5 |
| 2. Second and third abdominal segments with greenish median vitta | |
| <i>dasyxenus</i> Loew | |
| Second and third segments with the apices dark, the third rarely subvittate | 3 |
| 3. Both the front and middle pulvilli greatly enlarged, the claws wanting on both pairs of legs | <i>lawrencei</i> n. sp. |
| Only front pulvilli enlarged; middle tarsi with claws; antennae black | 4 |
| 4. Hind tibiae with unusually long hair except above, the hair becoming somewhat shorter apically | <i>inversus</i> Curran * |
| Hind tibiae not with long cilia-like hair behind, wholly rather short haired | |
| <i>brunneus</i> Loew | |
| 5. Eyes broadly separated above the antennae | <i>munroi</i> Curran |
| Eyes contiguous above the antennae | 6 |
| 6. Hind femora strongly arcuate, the apical fifth of the posterior surface with dense fine hair and a series of fine cilia on their apical half below | |
| <i>amplus</i> Curran | |
| Hind femora but slightly arcuate, without abundant hair on apex behind and with only four or five bristles of unequal length postero-ventrally | |
| <i>rita</i> Curran | |

Diaphorus brunneus Loew.

Female.—Length, 5 mm. Head dark metallic green in colour, the face, front, and most of the occiput so densely brownish-yellow pollinose as to hide the ground colour; face about one-fifth as wide as the head, the front scarcely wider. Orbital cilia black above, the hairs below the neck white. Antennae reddish, the third joint more brownish, wider than long. Arista dorsal, almost as long as the head, finely short plumose on its whole length. First antennal joint bare above. Palpi pale yellow, elongate oval, with a black apical bristle; proboscis blackish.

Mesonotum metallic green, the colour almost obscured by dense greyish pollen; pleura almost blackish, with dense grey pollen. Scutellum concolorous with mesonotum, with two pairs of strong marginal bristles. A single strong bristle above the anterior coxae.

Legs, including the coxae, yellow, the tarsi becoming brownish at the apex; middle coxae brown almost to the tip on the anterior and outer surfaces; hairs of legs and coxae all black.

Wings cinereous hyaline, the large cross-vein not oblique. Squamae and halteres yellow, the cilia of the former black.

First three abdominal segments and the whole venter yellow, the

* Rev. Zool. Afric., vol. xii. p. 474, 1924.

apices of the second and third segments and the base of the third blackish, the whole of the fourth and fifth metallic green. Abdomen thinly greyish-white pollinose on the disc, thickly so on the sides; the hair all black.

Male.—Length, 5.5 mm. The brown face is entirely obscured by white pollen, the frontal triangle long, normally narrowly connected with the vertical triangle (narrowly contiguous in some dried specimens); pollen of frontal triangle similar to that on face, the vertical triangle with more ochreous pollen. Occiput black, densely grey pollinose. Antennae yellowish brown to blackish, the subcordate third joint slightly wider than long, the slender brown arista situated well above the middle of the joint. Palpi pale yellow, with sparse black hairs; proboscis brownish red or brown, with white hairs; beard white.

The mesonotum is so densely ochreous-brownish pollinose as to almost conceal the ground colour, the posterior slopes and side margins in front of the wings with paler pollen. Pleura black, with green reflections showing through the dense greyish pollen, the posterior lower edge and a spot below the halteres yellow. Scutellum green, its margin usually wholly pale yellow, the whole grey pollinose.

Coxae yellow, the middle ones almost all brown, the hairs black. Legs yellow, the tarsi becoming brown from the tip of the first joint. Front femora beneath on the anterior edge with a row of fine black bristles which become shorter apically, the longest not over half as long as the height of the femora, on the postero-ventral surface with a much shorter row, but the basal bristle is stronger than any in the anterior row; in addition there is a row of longer black cilia on the apical half of the posterior surface. The anterior tibiae bear on their postero-ventral surface a row of short even cilia which are shorter than the width of the tibiae. The apical joint of the front tarsus is slightly widened and bears rather long hairs above; their pulvilli are brownish tinged, slightly longer than the fifth segment and clothed on the edges with short silvery white pubescence. All the hairs on the legs are black. The first joint of the anterior four tarsi is at least twice as long as the second, the first two joints of the posterior ones of practically equal length.

Wings greyish hyaline. Squamae and halteres yellow, the former with black cilia.

First three abdominal segments yellowish or brownish yellow, the venter of the fourth, brown, the narrow apices of the second and third segments and the whole of the following ones blackish, often more or

less greenish, the dorsum bronzed, the sides more densely greyish pollinose than the dorsum. The hair is black, moderately long, the bristles not well developed; the four bristles on the genitalia are robust and almost as long as the fourth abdominal segment. Genitalia brown, greyish pollinose, the appendages brownish.

The description of the female is from a specimen collected at Kamati in the Eastern Transvaal. That of the male is from a specimen from Pretoria and another from East London, both collected by Mr. H. K. Munro. The male is not represented in the collection but the description is given in order that it may be compared with the following new species.

There is a single female collected by Mr. Lawrence at Zandemela, Port. E. Africa, in December 1923, which is either an undescribed species, *dasygnemus* Loew, or an unusual form of *brunneus*. It has a wide green vitta on the third abdominal segment. Unfortunately, the abdomen has been partly eaten away.

Diaphorus lawrencei new species.

The description of *D. brunneus* Loew applies well to this species, with these exceptions:—

Lengths, the same. *Male*.—Antennae brownish red, paler beneath (third joint missing, probably dark reddish); the middle tarsi lack claws and the pulvilli are greatly developed as on the front tarsi. The apical abdominal segments are green.

Female.—Antennae wholly reddish, otherwise as in *brunneus*.

Described from one male and two females, Nyaka, Port. E. Africa, February 1924, collected by Mr. R. F. Lawrence.

This species cannot be confused with any others so far known from the region, as the red antennae at once distinguish the female, and the enlarged pulvilli of the middle tarsi are characteristic of the male.

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EXPLANATION OF PLATES IX AND X.

FIG.

1. *Sciapus peringueyi* n. sp., wing of ♂; la. ♂ genitalia; lb. ♂ antenna.
2. *Sciapus subfascipennis* n. sp., ♀ wing.
3. *Condylostylus sicatrix* n. sp., ♂ genitalia; 3a. ♂ hind tibia.
4. *Condylostylus angustipennis* Loew, ♂ antenna.
5. *Condylostylus pateraeformis* Becker, ♂ wing; 5a. ♀ wing.
6. *Vaalimyia violacea* n. sp., wing; 6a. antenna of ♂.
7. *Aphrosylus griseatus* n. sp., wing; 7a. ♂ abdomen; 7b. antenna.
8. *Liancalus peringueyi* n. sp., ♂ wing; 8a. ♂ front tarsus.
9. *Condylostylus imitans* Curran, ♂ wing; 9a. ♂ genitalia; 9b. ♂ front tarsus.
10. *Chrysosoma flexum* Loew, ♂ wing; 10a. ♂ genitalia; 10b. ♂ mid tarsus.



